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IS 5015 (1969): Knife-terminal Device Artificial Limbs [MHD
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SPECIFICATION FOR KNIFE-TERMINAL DEVICE FOR ARTIFICIAL LIMBS

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All India Institute of Physical Medicine &
Rehabilitation, Bombay

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SPECIFICATION FOR KNIFE-TERMINAL DEVICE FOR ARTIFICIAL LIMBS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 23 January 1969, after the draft finalized by the Artificial Limbs Sectional Committee had been approved by the Consumer Products Division Council.

0.2 The formulation of Indian Standards on artificial limbs, prosthetic and orthotic appliances and rehabilitation equipment has been taken up at the instance of the Advisory Committee for Development of Surgical Instruments, Equipment and Appliances, Government of India.

0.3 Terminal devices for artificial limbs are working accessories to be fitted into the dress or working arm of an amputee of the upper extremity. These devices aid the amputee to perform some of the normal functions of the hand.

0.4 This standard is one of a series on terminal devices for artificial limbs.

0.5 This standard is a necessary adjunct to IS : 4534-1968*.

0.6 This standard contains clauses 3.1.1 and 3.1 which call for an agreement between the purchaser and the supplier.

0.7 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements pertaining to material, shape, dimensions, workmanship and finish for knife-terminal device.

*Specification for adapter for terminal devices, artificial limbs.

†Rules for rounding off numerical values (revised).

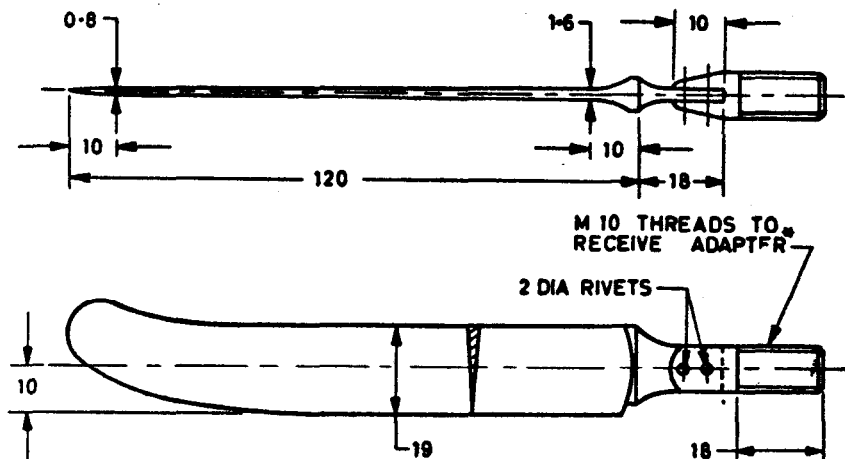
2. MATERIAL

2.1 The knife shall be manufactured from stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961*.

2.2 The rivets used shall be of the same material as the knife.

3. SHAPE AND DIMENSIONS

3.1 The general shape and dimensions of the knife shall be as given in Fig. 1.



*See IS : 4534 - 1968 'Specification for adapter for terminal devices, artificial limbs'.
All dimensions in millimetres.

FIG. 1 KNIFE-TERMINAL DEVICE FOR ARTIFICIAL LIMBS

3.1.1 The knife may also have shapes and dimensions other than those given in this standard subject to agreement between the purchaser and the supplier. The knife shall however conform with other provisions laid down in this standard.

4. WORKMANSHIP AND FINISH

4.1 The knife shall be free from cracks, seams, flaws, scales, burrs, pits, rough-grind marks and other surface defects. They shall be finished smooth all over and polished bright. The sharp edges and corners except the cutting edge shall be slightly rounded. The blades shall be properly ground, tapering uniformly from the back to the cutting edge and from shoulder to the joint. The cutting edge shall be sharp and ready for use.

*Schedules for wrought steels for general engineering purposes.

5. HEAT TREATMENT

5.1 The blades of the knives shall be uniformly hardened and tempered to give a hardness of not less than 470 *HV*.

6. TESTS

6.1 The cutting edge and flexibility of the knife shall be tested by the methods specified in 7.2.2 and 7.2.3 of IS : 995-1964*.

6.2 Corrosion Resistance Test — The knife shall be tested for resistance to corrosion as given in 6.2.1.

6.2.1 Copper Sulphate Test — The sample shall be scrubbed with soap and warm water, rinsed in hot water, followed by a dip in ethyl alcohol (95 percent) and dried. The sample shall be completely immersed in copper sulphate solution at room temperature for 6 minutes and shall then be washed off with fresh water or wet cotton wool.

The copper sulphate solution shall be made up as follows:

Copper sulphate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)	4.0 g
Sulphuric acid (H_2SO_4) (sp gr 1.84)	10.0 g
Water (H_2O)	90.0 ml

There shall be no red stains or spots on the sample after the test, but the polished surface getting dull may be permitted.

7. MARKING

7.1 Each knife shall be clearly and legibly marked with the words 'Stainless Steel', manufacturer's name, initials or recognized trade-mark.

7.1.1 The knife may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

8. PACKING

8.1 The knife shall be packed in the manner as agreed to between the purchaser and the supplier. Care shall be taken to protect the blade of the knife from getting damaged.

*Specification for table knives, dessert knives and fruit knives.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Conversion
Force	newton	N	1 N = 0.101 972 kgf
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

INDIAN STANDARDS INSTITUTION

Manek Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephone : 27 61 31 (20 lines)

Telegrams : Manaksanstha

Regional Offices:

		Telephone
Western : Novelty Chambers, Grant Road	BOMBAY 400007	37 97 29
Eastern : 5 Chowringhee Approach	CALCUTTA 700072	23-08 02
Southern : C.I.T. Campus, Adyar	MADRAS 600020	41 24 42

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